INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3550

THE RIVER TERMINAL RAILWAY COMPANY

IN RE ACCIDENT

AT CLEVELAND, OHIO, ON

NOVEMBER 30, 1953

SUMMARY

Date:	November 30, 1953	
Railroad:	River Terminal	
Location:	Cleveland, Ohio	
Kind of accident:	Head-end collision	
Equipment involved:	Engine with cars	: Engine with cars
Engine numbers:	37	: 84
Consists:	2 cars	: 6 cars
Estimated speeds:	20 m. p. h.	: Standing
Operation:	Operating rules	
Track:	Yard track; 17° curve; 1.63 percent ascending grade northward	
Weather:	Snowing	
Time:	2:58 a. m.	
Casualties:	2 killed; 4 injured	
Cause:	Failure of the carrier to establish definite and adequate rules governing movements on its line	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3550

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE RIVER TERMINAL RAILWAY COMPANY

February 3, 1954

Accident at Cleveland, Ohio, on November 30, 1953, caused by failure of the carrier to establish definite and adequate rules governing movements on its line.

REPORT OF THE COMMISSION[1]

CLARKE, Commissioner:

On November 30, 1953, there was a head-end collision between two yard engines on the River Terminal Railway at Cleveland, Ohio, which resulted in the death of two employees, and the injury of four employees. This accident was investigated in conjunction with representatives of the Public Utilities Commission of Ohio.

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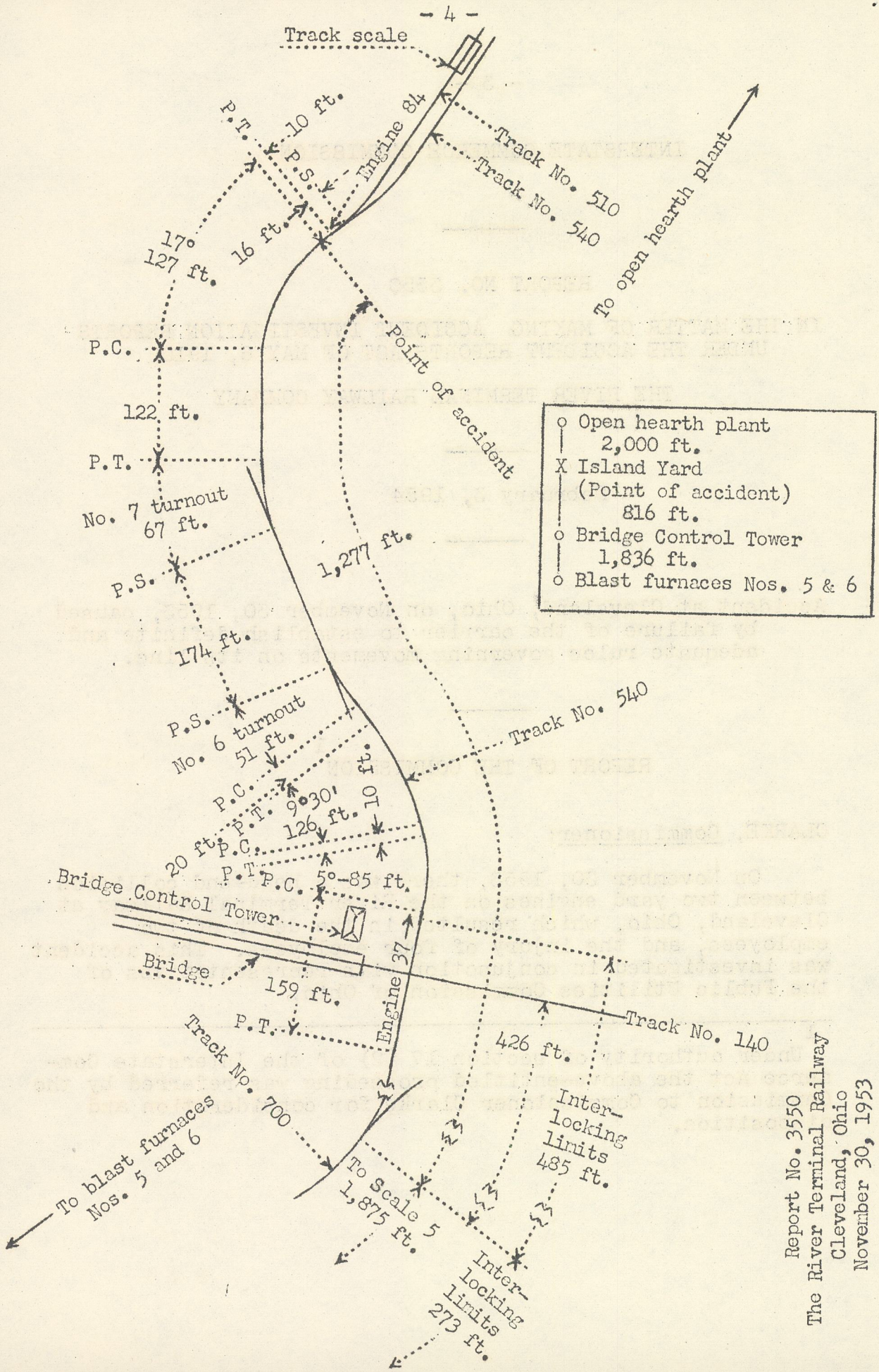
[1] Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



Report No. 3550
The River Terminal Railway
Cleveland, Ohio
November 30, 1953

Location of Accident and Method of Operation

This accident occurred in the Island Yard of the River Terminal Railway at Cleveland, Ohio. This carrier performs switching and transfer service for steel plants of the Republic Steel Company located within the city. Train and engine movements are governed by operating rules of the carrier. The yard of blast furnaces Nos. 5 and 6, Island Yard, and the yard of an open hearth steel plant, together with connecting trackage, are located on the east side of the Cuyahoga River. A track scale designated as Scale No. 5 is located on a yard track at a point approximately 500 feet north of the gate of the plant of blast furnaces Nos. 5 and 6. A running track designated as track No. 700 connects the north ends of yard tracks in the vicinity of this plant immediately north of Scale No. 5 and extends northward and is parallel to the east bank of the river. A running track designated as track No. 540 diverges from track No. 700 at a power-operated switch located 1,875 feet north of Scale No. 5. Track No. 700 extends in a northeasterly direction from this point, and track No. 540 extends northward via Island Yard to the yard of the open hearth steel plant. The accident occurred on track No. 540 at a point 1,277 feet north of the south switch. In Island Yard a track scale is located on track No. 510. The south switch of this track is located in track No. 540 immediately north of the point of accident. From the south on track No. 540 there are, in succession, a tangent 159 feet in length, a 5° curve to the left 85 feet, a tangent 10 feet, a 9°30' curve to the left 126 feet, a tangent 20 feet, a No. 6 turnout to the right 51 feet, a tangent 174 feet, a No. 7 turnout to the right 67 feet, a tangent 122 feet, and a 17° curve to the right 127 feet to the point of accident and 10 feet northward. The grade for north-bound movements on track No. 540 is, successively, 2.22 percent ascending a distance of 293 feet, 1.05 percent ascending 71 feet, 0.42 percent descending 100 feet, 1.34 percent descending 214 feet, 1.18 percent descending 283 feet, 0.59 percent ascending 105 feet, 1.07 percent ascending 115 feet, and 1.63 percent ascending 33 feet to the point of accident and 152 feet beyond.

A line which extends from east to west crosses track No. 540 at grade at a point 426 feet north of the south end of the track. Bridge Control Tower interlocking station is located in the northwest angle of the intersection. The power-operated switch at the south end of track No. 540 is

controlled from this interlocking. Interlocking limits extend between opposing interlocking signals on track No. 700 and track No. 540 located, respectively, 273 feet south and 485 feet north of the south switch of track No. 540.

This carrier's operating rules read in part as follows:

HAND, FLAG AND LAMP SIGNALS

56. Manner of Using	Indication
(a) Swung across track.	Stop

* * *

(h) Any object waved violently by anyone on or near the track is a signal to stop.

* * *

150. Yardmaster

* * *

He has charge of yards, of the men employed and movement of trains and engines therein, and distribution and movement of cars within assigned districts.

* * *

152. Engineers

* * *

He must * * * keep a constant look-out for signals and obstructions * * *

* * *

153. Firemen

* * *

When not engaged in firing he will keep a look-out front and back for signals, and give notice to engineer of any signal or indication of danger.

* * *

Description of Accident

Engine 37, headed southward and moving in backward motion and pulling two loaded hot-metal cars, departed from Scale No. 5 and entered track No. 700 a few minutes before the accident occurred. This movement proceeded northward, was routed to track No. 540 at Bridge Control Tower, passed Bridge Control Tower about 2:57 a. m., and while moving at an estimated speed of 20 miles per hour it collided with engine 84 at a point 1,277 feet north of the south switch of track No. 540.

Engine 84, headed southward and coupled to the south end of a cut of six cars, moved southward from a point at which it had been placing cars at a track scale in Island Yard, entered track No. 540 at the south switch of track No. 510, and stopped with the front end 26 feet south of the switch. A few minutes later the engine was struck by engine 37.

Engine 37 and its tender and the first car of the north-bound movement were derailed. They stopped upright and approximately in line with the track. The cistern was shifted forward on the tender frame, and the engine cab was demolished. Steam pipes in the left side of the cab were broken. The engine and tender were badly damaged, and the derailed car was slightly damaged. Engine 84 and the cut of cars were moved northward a distance of about 15 feet by the force of the impact. The front driving wheels of the engine were derailed. The engine and tender were somewhat damaged.

The fireman and a yard brakeman of engine 37 were killed. The engineer, the yard conductor, and a yard brakeman of engine 37 and the fireman of engine 84 were injured.

It was snowing at the time of the accident, which occurred about 2:58 a. m.

Engine 37 is of the 0-6-0 type. It is equipped with a G-6 type automatic brake valve and S-3 type independent brake valve and one cross-compound air compressor. The tender is rectangular in shape and is mounted on two 4-wheel trucks. It is equipped with a headlight at the rear. The total weight of the engine and tender in working order is 237,000 pounds.

The hot-metal cars involved in this accident, designated as cars B and H, are of the type used in the transportation of molten metal between furnaces of the steel plants. Each car consists of a cylindrical body section suspended between two 6-wheel trucks. The trucks of car H are equipped with roller bearings. Both cars are equipped with AB brakes. At the time of the accident cars B and H were loaded and their gross weights were, respectively, 580,000 pounds and 603,000 pounds.

Discussion

On the day of the accident the crew of engine 37 assembled two loaded hot-metal cars in the yard of blast furnaces Nos. 5 and 6 and moved them to Scale No. 5. After the cars were weighed the conductor communicated by telephone with the yardmaster and received instructions to move the cars to the open hearth plant via track No. 540. The engine then departed, moving in backward motion and pulling the cars. It proceeded northward on track No. 700 and was diverted to track No. 540 at Bridge Control Tower. As this engine was approaching the point where the accident occurred the engineer and the fireman were maintaining a lookout in the direction of movement from their respective positions in the cab. The members of the train crew were on the deck of the engine. The canvas curtain at the rear of the cab was closed. The headlight at the rear of the tender was lighted dimly. The engineer said that the sander valve was open because of bad rail conditions. The fireman last attended the fire before the movement departed from the scale. When the engine was in the vicinity of Bridge Control Tower the enginemen observed the headlight of an engine standing in Island Yard. The engineer said that he and the fireman conferred as to the location of the engine and that they concluded from the apparent location of the headlight that the engine was clear of track No. 540. The engineer then observed a person walking on the track in the vicinity of a pump house located 360 feet north of the crossing. He sounded several warning blasts on the engine whistle. He said that he did not see the person give any signals before stepping off the track and out of his view. The conductor said that the members of the train crew could not see the track from their positions on the deck of the engine. He said that the engineer reduced the throttle after the engine passed over the crossing, but he was unable to estimate the speed of the movement. The engineer said that he was operating

the engine in the manner usual in that service to maintain sufficient momentum for movement of loaded hot-metal cars over the adverse grades on track No. 540. Because of track curvature and the curtain at the rear of the cab, the engineer's view of the track in the immediate vicinity of the point of accident was materially restricted. He said that as the engine was closely approaching the point of accident the fireman called a warning. He immediately moved the automatic brake valve to emergency position, closed the throttle, applied the independent brake, and moved the reverse lever to position for forward motion. The collision occurred before the movement could be stopped.

The crew of engine 84 was engaged in moving cars for weighing operations at a track scale located in Island Yard. A few minutes before the accident occurred, the engine, coupled to the south end of a cut of six cars, was moved southward to clear a yard movement at the north end of the yard. The engine entered track No. 540 at the south switch of track No. 510 and stopped with the front end 26 feet south of the switch. The headlight was lighted dimly. The engineer and the fireman were on the engine, and the members of the train crew were in the vicinity of the cars at the rear of the engine. The conductor said that he observed the movement approaching from the south and gave stop signals with a white light from a point on the east side of the track and about 80 feet north of his engine. He estimated that the speed of the approaching movement was about 20 miles per hour. He said that he continued to give stop signals, but he did not think the speed of the movement was materially reduced before the collision occurred. The engineer of engine 84 said that he observed the stop signals given by his conductor. He did not see the approaching engine until a few seconds before the collision occurred.

A plant patrolman said that he was walking on the track in the vicinity of the pump house when the north-bound engine approached. He said he had previously observed that engine 84 in Island Yard was standing on the track on which the north-bound engine was approaching, and because of the speed of the engine he became concerned and gave stop signals. He did not have a light, and when his signals were not acknowledged he stepped to the east side of the track and called a warning as the engine passed. He said that the fireman was looking out the cab window. He observed sparks flying from the wheels of the cars when the brakes were applied after the movement passed him.

The equipment of the north-bound movement was inspected after the accident occurred. No slid-flat spots were found on the wheels of the engine or tender. When the brakes of the cars were tested it was found that the piston travel was 7 inches on car B and 12 inches on car H.

The rules of this carrier prescribe the conditions under which the use of air brakes is required, but they do not require that the air brakes be tested. Without a proper test of the brakes, the condition of the brakes is not determined in advance of their use to control the speed of a movement. In the instant case the air-brake system of cars B and H was charged immediately after the engine was coupled to them. The engineer said that the brakes functioned when used to stop the movement on level track at Scale No. 5. However, without a proper test of the brakes the crew had no means of knowing that because of excessive piston travel the brake of one of the cars was not in an effective operating condition.

The investigation disclosed that there was not a common understanding among the employees involved concerning the method of operation on the line of this carrier. The yardmaster said that when he issued instructions to the conductor of engine 37 to use track No. 540 he expected that in making the movement the crew would maintain a lookout for other movements on this track. He thought that his instructions only authorized the movement and did not indicate that the track would be clear. Both the conductor and the engineer said they expected that the track would be clear on the route they were instructed to use. The conductor was regularly assigned to this service, and he said that on previous occasions when the movement had been routed via track No. 540 the track was clear of other movements. The engineer said that on previous occasions he had twice operated engines over track No. 540 in the same service, and on each occasion the track was clear of other movements. The fireman entered the service of the carrier on September 10, 1953. He had no regular assignment.

On two designated tracks in an adjacent yard, crews are required to operate under control and maintain a lookout for other designated movements. There are no definite rules covering movements over other tracks, and, except for the general requirement that enginemen maintain a lookout for

obstructions, the rules do not provide specific instructions as to the manner in which movements are to be made over these tracks. In the absence of a written rule, the employees do not have the basis for a common understanding of the requirements essential to the safety of such movements. The carrier should take immediate steps to correct this condition.

Cause

This accident was caused by failure of the carrier to establish definite and adequate rules governing movements on its line.

Dated at Washington, D. C., this third day of February, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,

Secretary.